# Monitoring (1.1.6)

# Silicon Radiation and Temperature Monitoring

**Marj Corcoran**

**Department of Energy Review of the Run IIb Projects**

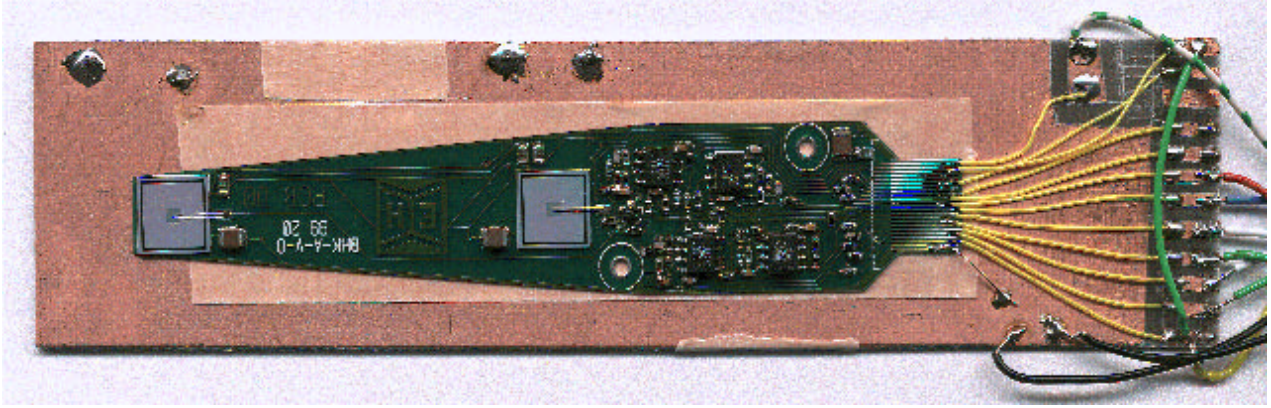
**September 24-26, 2002**

# Radiation and Temperature Monitoring

- The basic philosophy is to build on Run IIa experience and make only minor changes
- Radiation monitoring will reproduce the existing system within the new geometry
- Temperature monitoring will reproduce the existing system, with an additional system for L0/L1.

# Radiation monitoring

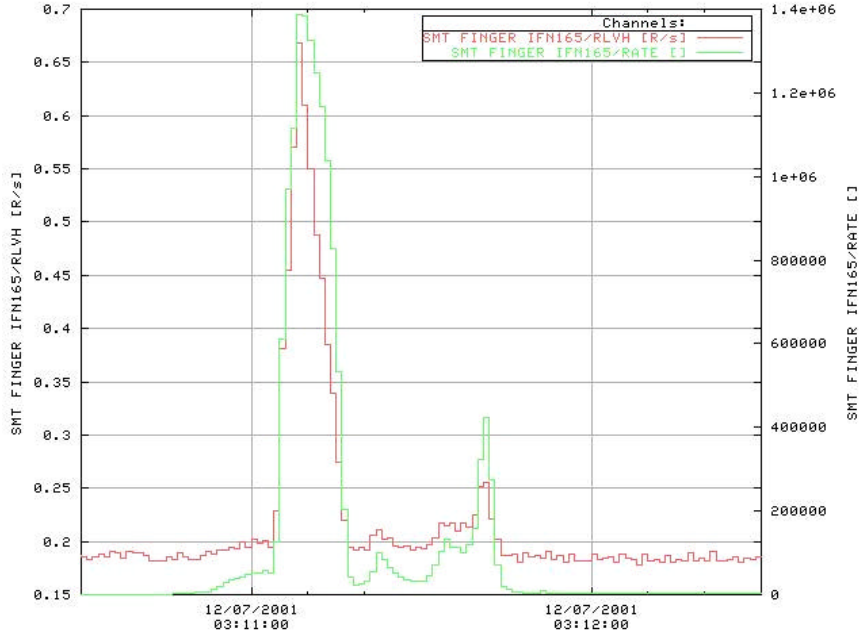
- Currently there are two systems
  - Beam Loss Monitors from Beams Division
  - Silicon diodes mounted on F and H disks



Radiation monitor finger as mounted on F or H disk

# Radiation Monitoring

- **Silicon diodes are being made as part of the sensor order with Hamatusu**




**Sample radiation loss event as measured in one of radiation monitor fingers**

# Temperature Monitoring

- Devices used are thin film platinum resistors, RTDs.
- Run IIa system will be reproduced, with an RTD on each hybrid.

Read out through the 1553 system

The temperature value interlocks the power to each hybrid.

# Temperature Monitoring

- A second temperature monitoring system will monitor the L0 sensors (since, for L0 the hybrids are not close to the sensors)
- This system will also provide more accurate monitoring of other parts of the detector
- RTDs are read out through commercial modules via the D0 cryo system.